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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,179	07/11/2001	David M. Sellepack	026977-0109	9363

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EXAMINER
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MUSSER, BARBARA J

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 09/23/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/903,179		SELLEPACK, DAVID M.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Barbara J. Musser		1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) 33-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 and 48-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>11</u> . | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-32 and 48-50 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose a thermoplastic layer between the bonding layer and the substrate. It discloses either a thermoplastic polyolefin[0032] or an acrylic layer[0043], depending on which layer applicant is referring to. While the specification discloses a thermoplastic melting point, this It is suggested that thermoplastic be changed to –thermoplastic polyolefin--.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 7, 17, and 50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 7, it is unclear which layers are being bonded together as the claim indicates the second exterior surface is joined to itself. It is suggested that either “second” in line 2 or line 3 be changed to –first--.

Regarding claim 17, it is unclear how a thermoplastic layer can be present in the independent claim, but not be present in the dependent claim. For the purposes of examination, it is assumed to mean that the thermoformable consists solely of the paint laminate, thermoplastic layer, and structural sheet, not only the paint layer and structural sheet. It is noted that the claim does not require the laminate to consist solely of the paint layer and bonding layer, and that layers such as the thermoplastic sheet could be part of that.

Regarding claim 50, it is unclear what is meant by a backing sheet not being present as the thermoplastic layer is disclosed as the backing sheet in the specification. It is unclear how it can be both present and not present at the same time. If it bonds the two layers together, it is located between them as the specification does not indicate how it can bond the layers together without being between them. The only other layer between the bonding layer and the structural layer is a portion of the adhesive tie layer which is coextruded with the second portion of the adhesive tie layer. This layer is not described as a thermoplastic layer, but rather specific materials are disclosed.

### ***Claim Objections***

5. Claim 19 is objected to because of the following informalities: the claim does not end as it has no period. Appropriate correction is required.
6. Claim 50 is objected to because of the following informalities: the claim contains the word "beetween". This appears to be a misspelling of --between-- Appropriate correction is required.

Art Unit: 1733

***Specification***

7. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: claim 12 states the covalent adhesive is an olefinic material. The specification only discloses a chlorinated polyolefin. However, the original claims supported the covalent adhesive being an olefin. Therefore applicant must either change "polyolefin" in the claim to --chlorinated polyolefin-- or add "olefinic" to the type of adhesive described in the specification.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 4, 5, 7, 8, 16, 17, 19, 21, 27, 31, 32, and 48-50 are rejected under 35 U.S.C. 102(e) as being anticipated by Roys et al.(U.S. Patent 6,284,183).

Roys et al. discloses forming a three-dimensional structure by extruding a polymer sheet 0.25 inches thick, joining a laminate comprising a paint film bonded to a substrate(thermoplastic layer) via an adhesive to the sheet, and thermoforming the composite.(Col. 2, ll. 40-52; Col. 3, ll. 1-2; Col. 5, ll. 15-32) Thermoforming is a process

Art Unit: 1733

wherein a sheet is heated until it deforms to take the shape of the mold surface it is held against.(Figure 6)

Regarding claims 4 and 5, since the laminate is joined to the sheet via the adhesive at a given temperature, one in the art would understand that the adhesive would be joined at its activation temperature as below the activation temperature, the adhesive would not bond the laminate to the sheet. The sheet is extruded above 350F.(Col. 8, ll. 25)

Regarding claims 7 and 8, the sheet is laminated to the laminate at a temperature significantly lower than the extrusion temperature.(Col. 8, ll. 23-38)

Regarding claims 16 and 31, Roys et al. discloses the bonding layer can be 0.1-1 mil thick.(Col. 5, ll. 51-53)

Regarding claim 17, Roys et al. discloses the paint layer and clear layer combined can be 1-3 mils thick(Col. 4, ll.19-20, 64-65) and the bonding layer can be 0.1-1 mil thick(Col. 5, ll. 51-52) Therefore, the total thickness can 1.1-4 mils.

Regarding claim 19, Roys et al. discloses the polymer sheet can be polyethylene.(Col. 8, ll. 14)

Regarding claim 21, Roys et al. discloses the paint layer can have a clear coat composed of polyvinylidene fluoride on it.(Col. 4, ll. 24-25)

Regarding claim 48, the temperature of the polymer sheet is such that the thermoplastic layer acts as an adhesive.

10. Claims 6, 11-15, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Roys et al. as evidenced by the admitted prior art.

Art Unit: 1733

Roys et al. discloses using a chlorinated polyolefin to bond the paint film to the sheet.(Col. 11, ll. 24-29) According to the admitted prior art, such adhesives are covalent crosslinking adhesives with activation temperatures of approximately 270F.[0034]

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1, 4-15, 19-27, 30-32, 49, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roys et al.

The reference does not explicitly state the thermoforming into a three dimensional structure is done in a mold. The definition of thermoforming is that the plastic is heated until it softens and takes the shape of the mold surface the final product is intended to be. It would have been obvious to one of ordinary skill in the art at the time the invention was made to thermoform to form a three-dimensional shape in a mold as this is the conventional definition of thermoforming.

Regarding claims 9, 10, and 26, the reference does not disclose the temperature of the sheet being below 190F when it is bonded to the laminate. However, it does disclose that the temperatures can be adjusted to ensure the optical clarity of the paint

Art Unit: 1733

film.(Col. 8, ll. 40-44) One in the art would appreciate that the temperature used would depend on the paint composition used as different paints would retain their optical clarity at different temperatures and would bond the paint film to the sheet at different temperatures dependent on the paint composition. Only the expected results would be achieved.

Regarding claim 20, while Roys et al. does not explicitly state the polymer sheet is composed only of polyethylene, the reference states it can be made from polyethylene(Col. 8, ll. 14) and that fillers can be used. This indicates that fillers are not required. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the polymer sheet only from polyethylene as

Regarding claims 22-25, while the reference only discloses the paint layer may have pigment, one in the art would appreciate that it is well-known to form paint films with a variety of designs ranging from dots to camouflage dependent on the final end product. One in the art would appreciate that any of the well-known paint film designs such as camouflage could be used. Only the expected results would be achieved.

13. Claims 2, 3, 28, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roys et al. as applied to claims 1 and 27 above, and further in view of Hooper et al.(U.S. Patent 5,800,657).

The reference cited above does not disclose allowing the sheet to cool until at least 90% of its shrinkage has occurred before applying the paint film. It is well-known in the bonding arts that extruded materials tend to shrink after extrusion as shown for example by Hooper et al. which discloses that plastics can shrink as much as 1% of



Art Unit: 1733

their length after extrusion upon cooling.(Col. 1, ll. 32-39) It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the sheet to cool enough that the vast majority of shrinkage had occurred before applying the paint laminate as otherwise the laminate would crinkle as the sheet shrank forming unsightly patterns in the paint.

14. Claims 18 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Roys et al.

The admitted prior art discloses applying paint to a mold surface and injecting resin prior to rotational molding to form a canoe.[0005] It also suggests that one in the art would look to the automobile panel arts.[0007] It does not disclose applying a preformed paint laminate to an extruded substrate and thermoforming them. Belyeu discloses thermoforming a substrate to form a canoe, but does not disclose how to apply paint to it.(Col. 4, ll. 30-33) Roys discloses applying a paint laminate to a substrate and thermoforming the combination.(Col. 1, ll. 7-12) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method of Roys et al. to form the canoe of the admitted prior art since the admitted prior art suggests looking in the automobile panel art, since Belyeu discloses it is known to thermoform a substrate to form a canoe and that thermoformed canoes are less likely to break or collapse around the paddler(Col. 2, ll. 15-22), and since Roys et al. discloses the method of Roys et al. allows the use of filler which can otherwise degrade the paint film reducing the cost of the overall product.(Col. 2, ll.19-22)

Art Unit: 1733

Regarding claims 22-25, while the reference only discloses the paint layer may have pigment, one in the art would appreciate that it is well-known to form paint films with a variety of designs ranging from dots to camouflage dependent on the final end product. One in the art would appreciate that any of the well-known paint film designs such as camouflage could be used. Only the expected results would be achieved.

***Response to Arguments***

15. Applicant's arguments filed 7/7/03 have been fully considered but they are not persuasive.

Regarding applicant's argument that Roys et al. does not disclose a thermoplastic layer between the paint laminate and the substrate, Roys et al. discloses a backing sheet made of thermoplastic can be between the paint laminate and the substrate.(Figure 7)

Regarding applicant's argument that Roys et al. does not disclose cooling the substrate prior to bonding, the reference discloses calendering rolls at temperature below that of the extruded material which cool the material prior to application of the paint laminate.(Col. 8, ll. 30-36)

Regarding applicant's argument that Roys et al. does not disclose a method of forming a three dimensional structure, thermoforming is a process of deforming a sheet until it assumes the shape of a three-dimensional mold it is held against. Figure 6 shows that Roys et al. forms a three-dimensional structure.

***Conclusion***

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Barbara J. Musser** whose telephone number is **(703)-305-1352**. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

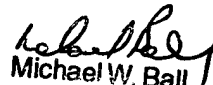
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on 703-308-2058. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 1733

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



BJM



Michael W. Ball  
Supervisory Patent Examiner  
Technology Center 1700